

WHAT IS CLAIMED IS:

- 1 1. An overlay routing processor for transferring information over a
2 computer network, wherein the computer network has a native routing protocol the
3 overlay routing processor comprising
4 instructions for associating computers on the network with a given overlay
5 group;
6 instructions for determining whether received information is associated
7 with the given overlay group; and
8 instructions for routing the received information to the computers
9 associated with the given overlay group by using the native routing protocol.
- 1 2. The overlay routing processor of claim 1, wherein the native
2 routing protocol defines computers as members of native groups for purposes of routing
3 information among members of a given native group, the overlay routing processor
4 further comprising
5 instructions for identifying a specific native group as an efficient
6 distribution channel for the given overlay group; and
7 wherein the instructions for routing include instructions for using the
8 specific native group to perform the routing.
- 1 3. The overlay routing processor of claim 2, wherein the instructions
2 for identifying a specific native group include
3 instructions for using a hash function to perform the identification.
- 1 4. The overlay routing processor of claim 2, wherein multiple overlay
2 processors are coupled together over the network, the overlay routing processor further
3 comprising
4 a data table accessed by the processor for defining peer relationships
5 between overlay processors; and
6 wherein the instructions for routing include instructions for using the
7 defined peer relationships between overlay processors to perform the routing.
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1 5. The overlay routing processor of claim 1, wherein an end-user
2 computer is coupled to the network, wherein a first media information source is coupled
3 to the network for sending media information to the network, the overlay routing
4 processor further comprising
5 a data structure associating the media information with a first overlay
6 channel identifier;
7 instructions for receiving a request from the end-user computer to receive
8 the media information;
9 instructions for retrieving the first overlay channel identifier from the data
10 structure and for associating the first overlay channel identifier with the request; and
11 instructions for routing all or a portion of the media information received
12 by the overlay routing processor to the end-user computer.

1 6. The overlay routing processor of claim 5, wherein a second media
2 information source is coupled to the network for sending media information to the
3 network, the overlay routing processor further comprising
4 instructions for indicating an error condition if a second overlay channel
5 identifier associated with the second media information source is the same as the first
6 overlay channel identifier.

1 7. The overlay routing processor of claim 2, further comprising
2 instructions for associating a native group with an overlay group; and
3 instructions for changing the association between an overlay group and a
4 native group.

1 8. The overlay routing processor of claim 7, wherein the association
2 between an overlay group and a native group includes defining a range of native multicast
3 addresses.

1 9. The overlay routing processor of claim 8, wherein the range of
2 native multicast addresses is defined as an IP4 Class D address and a prefix length.

1 10. The overlay routing processor of claim 1, further comprising
2 instructions for handling administrative scoping.

1 11. The overlay routing processor of claim 1, further comprising
2 instructions for servicing plugin modules.

1 12. The overlay routing processor of claim 1, further comprising
2 instructions for placing a limit on the number of transfers between
3 computers for a given portion of information.

1 13. The overlay routing processor of claim 12, wherein information is
2 transferred between the computers in packets, the overlay routing processor further
3 comprising
4 instructions for placing a "time-to-live" value in a field in a packet

1 14. The overlay routing processor of claim 1, further comprising
2 instructions for preventing the transfer of information between
3 predetermined computers.

1 15. The overlay routing processor of claim 14, wherein one or more
2 computers are identified by an address, the overlay routing processor further comprising
3 using the address to prevent the transfer of information between
4 predetermined computers.

1 16. A routing device in a computer network, the device comprising
2 instructions for detecting a client request for content information from a
3 client computer;
4 instructions that identify a processor for handling the client request;
5 instructions that obtain communication information from the processor;
6 instructions that transmit the communication information to the client
7 computer, wherein the communication information provides the client computer with a
8 preferred way to communicate with the routing processor.

1 17. The server of claim 16, wherein the instructions that identify a
2 processor include
3 instructions that provide a uniform resource locator to the client computer.

1 18. The server of claim 17, wherein the instructions that identify a
2 processor include
3 instructions that provide an overlay address corresponding to the content
4 information to the client computer.

1 19. A device in a computer network, the device comprising
2 instructions that detect a client request for content information from a
3 client computer;
4 instructions that identify a processor for handling the client request;
5 instructions that obtain a communication resource from the processor to be
6 used to facilitate transfer of information between the client computer and the processor;
7 instructions that transmit the communication information to the client
8 computer, wherein the communication information provides the client computer with a
9 preferred way to communicate with the processor.;
10 instructions that obtain from the identified processor a communication
11 resource to allow transfer of information between the client computer and the processor;
12 and
13 instructions for transferring information about the communication resource
14 to the client computer.

1 20. The device of claim 19, wherein the communication resource is a
2 port identifier.

1 21. A method for performing overlay routing in a computer network,
2 the computer network including multiple computers coupled to allow information transfer
3 over the computer network, the computer network having a native routing protocol, the
4 method comprising the following
5 associating computers on the network with a given overlay group;
6 determining whether received information is associated with the given
7 overlay group; and
8 routing the received information to the computers associated with the
9 given overlay group by using the native routing protocol.

1 22. A computer-readable media programmed with instructions for
2 performing overlay routing in a computer network, the computer network including
3 multiple computers coupled to allow information transfer over the computer network, the
4 computer network having a native routing protocol, the instructions including
5 instructions for associating computers on the network with a given overlay
6 group;
7 instructions for determining whether received information is associated
8 with the given overlay group; and
9 instructions for routing the received information to the computers
10 associated with the given overlay group by using the native routing protocol
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